

Systems and Methods for Production of Carbon Nanostructures

Abstract

Methods, processes, and apparatuses for the large scale synthesis of carbon nanostructures are provided. Metal catalysts having small diameter and narrow distribution of particle sizes are prepared and continuously injected as aerosols into a reactor. The metal catalysts are supported on supports that are substantially free of carbon, and the reactor is configured to control the flow of the gases such that the reaction time and contact of the reactants with the reactor walls can be controlled. Single-walled carbon nanotubes can be synthesized at a large scale and with high yields.

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